BULLETIN 633 SEPTEMBER, 1942

Characteristics and Cost of Short-Term Farm Loans Made by Ohio Country Banks

P. S. Eckert and J. I. Falconer

OHIO
AGRICULTURAL EXPERIMENT STATION
Wooster, Ohio

CONTENTS

ACKNOWLEDGMENT

The authors are particularly indebted to David M. Auch of the Ohio Bankers Association for valuable help in securing the original data. Acknowledgment is also due officers and workers of country banks whose cooperation in releasing information, in providing working space, and in giving their time made this study possible.

CHARACTERISTICS AND COST OF SHORT-TERM FARM LOANS MADE BY OHIO COUNTRY BANKS

P. S. ECKERT AND J. I. FALCONER

INTRODUCTION

In this study, the characteristics and cost of short-term farm loans[1] made by country banks were analyzed in an effort to discover factors which might influence the successful use of such loans.

A detailed description of 3,049 short-term farm loans was obtained from the 31 country banks that cooperated in the study. These 31 banks were located generally in towns of less than 15,000 people, and their rural patronage was known to be an important part of their total patronage. There were 702 banks operating in the State at the time of the survey. The cooperating banks were located in 30 counties widely distributed over the State.[2] Major factors considered in selecting banks to be studied were: representativeness of the bank and willingness of bank officers to cooperate.

The sample method was used in making the analysis. Each of the 31 banks was visited by an interviewer in the summer of 1939. It was planned that the interviewer should select, with the help of the local banker, a sample of approximately 100 representative short-term loans from the records of each bank and obtain a complete description of each of these loans. However, owing to differences in the number of short-term farm loans outstanding from various banks, the schedule of 100 loans per bank could not be carried out rigidly. It was possible, nevertheless, to approximate this schedule within various areas of the State. The usual procedure in selecting the loans was to take the first 100 as they appeared in the liability ledger. Several factors were considered in the selection of these loans. Only short-term farm loans were taken. The decision as to whether borrowers were farmers or nonfarmers was left to the judgment of the banker. When doubt arose, the source of the major portion of the borrower's income was used as the deciding factor. Only those loans were selected that were made at the interest rate levels which prevailed in the summer of 1939. If a prospective sample loan was found to involve a different rate of interest from the rate which would have applied on that particular loan in 1939 (the time of the survey), this loan was dropped. This procedure was necessary to establish a fixed base for cost calculations. To adhere to this procedure, it was necessary in a few banks to restrict the number of years from which loans could be taken, since these banks had made a general downward shift in the level of their interest rates between 1930 and 1939 (the period from which loans were selected). Further, in selecting the loans, an attempt was made to divide the total number into two groups: current loans (not paid off at the time of the survey) and closed loans (loans which had been paid). Although there were insufficient data on current loans to calculate their cost to the farmer, it was felt that a compilation of loan characteristics which did not include this group would give a one-sided picture.

[1]Loans secured by real estate were not analyzed.

[2]Counties in which cooperating banks were located were Ashtabula, Auglaize, Brown, Carroll, Columbiana, Defiance, Fairfield, Franklin, Geauga, Greene, Guernsey, Hardin, Henry, Huron, Licking, Madison, Medina, Meigs, Mercer, Miami, Morgan, Perry, Pickaway, Preble, Union, Van Wert, Vinton, Washington, Williams, and Wood.

The 31 banks that cooperated in this study included 17 State banks and 14 National banks. The estimates of their officers on the percentage of patrons that were farmers ranged from 10 to 95 and had a median value of 60 per cent. The bank officers also estimated the size of the area in which the bulk of their farm patrons lived. The median value of these estimates in terms of the length of the service area radius was 10 miles. The median value of the resources of the 31 cooperating banks was $1,199,000.

LOAN CHARACTERISTICS

SIZE OF LOANS

There was wide variation in the size of short-term bank loans to farmers. The smallest loan of the group studied was for $6; the largest, for $16,500. However, the 3,049 loans in the sample were not evenly distributed between these two extremes. Most of the loans were comparatively small; 84.7 per cent were less than $500.

Data on the distribution of loans by size are presented in table 1. For analytical purposes, the 45 loans of $2,050 and more were omitted from the distribution shown in this table, which, therefore, includes a total of 3,004. If these 45 loans had been considered in the calculation of the arithmetic mean, their extreme size would have so affected this value as to make it almost worthless. Of the 3,004 loans, the most usual size (the mode, selected from ungrouped data) was $100. Loans of this size accounted for 11.5 per cent of all loans. Something of a bimodal distribution is indicated by the fact that loans of $50 made up 7.2 per cent of the total number. The median size of loans was $153.71, and the arithmetic mean was $264.65.

TABLE 1.—Distribution according to size of 3,004 short-term bank loans to farmers*

Size of loan	Number of loans	Size of loan	Number of loans
Less than $ 50	380	$1,050-$1,099	9
$ 50-$ 99	545	1,100- 1,149	9
100- 149	558	1,150- 1,199	3
150- 199	256	1,200- 1,249	11
200- 249	308	1,250- 1,299	6
250- 299	129	1,300- 1,349	5
300- 349	171	1,350- 1,399	5
350- 399	84	1,400- 1,449	5
400- 449	110	1,450- 1,499	2
450- 499	41	1,500- 1,549	11
500- 549	97	1,550- 1,599	1
550- 599	24	1,600- 1,649	5
600- 649	43	1,650- 1,699	1
650- 699	24	1,700- 1,749	10
700- 749	35	1,750- 1,799	2
750- 799	10	1,800- 1,849	2
800- 849	25	1,850- 1,899	2
850- 899	8	1,900- 1,949	4
900- 949	19	1,950- 1,999	1
950- 999	5	2,000- 2,049	8
1,000-1,049	30		
		Total	3,004

*This table does not contain 45 loans which were $2,050 or more in size.

Table 1 shows that there was a strong tendency for farmers to obtain short-term bank loans of "even amounts." It shows that there was not only a tendency for loans to be of such size as to be evenly divisible by 100, but that

there was also a tendency for the number of loans to be greatest at sizes evenly divisible by 500 and 1,000. This tendency is undoubtedly the result of the banking practice of lending the borrower slightly more than his actual needs in order to "round off" the principal of the loan. Since it is unlikely that the use to which borrowed funds are put would require sums of these "even amounts," it would appear that farm borrowers often borrow slightly more than the exact amounts needed.

PURPOSE OF LOANS

Some difficulty was experienced in obtaining information on the purpose of short-term bank loans to farmers. None of the banks studied kept a written record of these data. In some cases the chattels given as security for the loan indicated the loan purpose. In the majority of cases, however, the major source of information on loan purpose was the memory of the banker. Some bankers showed a remarkable ability to remember the use their patrons made of borrowed funds. Others made no attempt to remember these facts. Some felt that in the case of patrons with an excellent financial record, it was the best policy to leave the use of the funds entirely up to the borrower and to refrain from asking about it. Because of these conditions, it was possible to obtain information on the purpose of only 684 loans. Information on the characteristics of some of these loans is given in table 2.

TABLE 2.—Some characteristics of short-term loans from banks to farmers, classified by purpose of loan*

Purpose of loan	Number of loans	Average number of days for which loan was made	Median size of loan	Percentage of loans with chattel mortgages	Percentage of loans with cosigners and/or endorsers
Livestock	293	163	$186.08	25.9	34.3
Machinery	113	184	276.19	42.5	38.1
Auto or truck	46	188	263.35	50.0	37.0
Taxes	45	94	50.00	.0	17.8
Seed	24	84	50.00	.0	12.5
Feed	22	152	65.00	.0	13.6
Fertilizer	19	119	50.00	.0	36.8
Sickness	13	148	285.00	.0	23.1
Refinancing	12	155	500.00	8.3	66.7
Repairs	12	117	150.00	.0	41.7
Miscellaneous and no data†	2,450	.....	.....	.....	.....
Total	3,049	.....	.....	.....	.....

*Classifications which contained less than 10 loans were omitted.
†Miscellaneous purposes include: general farm use, chickens, living expenses, insurance, groceries, farm supplies, land, labor, education, rent, funeral expenses, fines, monuments.

LENGTH OF LOANS

Length of loans may be considered in two ways: the length of the period in which the loans were due and the length of the period in which loans were paid.

The length of time in which the loans studied were to become due varied from 1 day to more than 2 years (see table 3). The due period which occurred most frequently was 90 to 119 days. Detailed information not given in table 3 showed that this situation was the result of a very prevalent practice of making 90-day loans. Other due periods which occurred frequently were the 1-

month, 2-month, 4-month, 6-month, and 1-year periods. A strong direct relationship was shown to exist between the length of due periods and the size of loans. Nearly one-half of all loans made for less than 90 days were less than $100. On the other hand, only about one-eighth of the loans made for 360 days and more were of less than $100. It was also shown that a greater proportion of the loans with long due periods than of those with short due periods involved chattel mortgages. For example, nearly two-thirds of the loans without chattel mortgages were due in less than 180 days, whereas only about three-eighths of the chattel mortgage loans were set up for this length of time.

TABLE 3.—Number of days in which loans were due

Number of days in which loans were due	Number of loans	Percentage of total number of loans
Less than 30	63	2.2
30- 59	234	8.1
60- 89	319	11.0
90-119	865	29.6
120-149	210	7.3
150-179	96	3.3
180-209	621	21.4
210-239	28	1.0
240-269	37	1.3
270-299	43	1.5
300-329	18	.6
330-359	21	.7
90-day interval		
360-449	82	2.8
450-539	10	.3
540-629	8	.3
630-719	3	.1
720 and more	12	.4
Demand loans	230	7.9
Total	2,900	100.0
No data	149	.....
Total	3,049	.....

Table 4 shows the relation of the length of time for which loans were made to the length of time in which these same loans were paid. Calculations based on this table show that 676, or 48.6 per cent, of the 1,390 loans on which due periods and paid periods were available were paid off approximately at the time of their first due date; that 21.6 per cent were paid before; and that 29.8 per cent were paid after their first due date. Undoubtedly only a few of the loans paid after their first due date were delinquent; it is probable that most of them were simply loans which involved one or more renewals. These calculations also show that short due periods had a relatively high proportion of loans paid off approximately when due the first time. As the length of the due period increased, the percentage of loans paid off at the first maturity date decreased until the due period reached 270 days. Above this point, increases in the length of the due period were accompanied by a higher percentage of loans paid at the first maturity date.

An effort was made to determine whether differences in size or security of loans had any appreciable effect on the degree to which loans were paid when due. It was found that 49.0 per cent of loans less than $500, 43.4 per cent of loans of $500 to $999, and 51.7 per cent of loans of $1,000 and more were paid off at the first maturity date. A slightly greater proportion (53.6 per cent) of

chattel mortgage loans was paid when due the first time than was the case with loans without chattel mortgages (47.9 per cent). It was also discovered that 45.8 per cent of cosigned loans and 51.3 per cent of the non-cosigned loans were paid at the first maturity date.

TABLE 4.—Relation of number of days in which loans were due to the number of days in which loans were paid

Number of days in which loan was due	Total	Number of days in which loan was paid					
		Less than 90	90–179	180–269	270–359	360 and more	No data
Less than 90	616	**305**	60	21	9	24	197
90-179	1,171	169	**238**	63	47	86	568
180-269	686	30	60	**97**	25	69	405
270-359	82	2	6	17	**19**	10	28
360 and more	115	2	4	4	6	**17**	82
Demand loans	230	21	11	4	6	17	171
No data	149	38	11	10	7	10	73
Total	3,049	567	390	216	119	233	1,524

RENEWALS AND PAYMENTS OF LOANS

Renewals.—About two-thirds (65.4 per cent) of the 1,548 loans on which information was obtained were paid without being renewed. Most of the remaining one-third were paid off with less than 6 renewals, although some loans had been renewed as many as 20 times. Several of the bankers who were interviewed stated that they made 60- or 90-day loans to farmers fully expecting that they would be renewed several times. This procedure, they stated, gave them considerable liquidity and at the same time allowed the farmer-borrower to possess the funds long enough to complete productive farm processes. On the other hand, one banker stated that he believed the practice of making loans for less than the period for which they are needed (within reasonable limits) was inefficient for the bank and inconvenient for the farmer.

On renewal loans (loans which were not completely paid at their first due date) a direct relationship was found between the number of renewals and the size of loans; the larger number of renewals was associated with the larger loans. Although 66.0 per cent of the loans with less than three renewals were of less than $200, only 37.9 per cent of the loans with nine or more renewals were of less than this amount. A strong relationship was noted between the number of renewals on loans and whether or not the loans involved chattel mortgages. Very few of the loans which involved a relatively large number of renewals were chattel mortgage loans.

Payments.—By a loan payment is meant either the cancellation of all or part of the borrower's debt by his payment of cash or its value equivalent to the lender or the renewal of the loan. In other words, the number of payments on a loan was simply the number of times that the borrower's account was credited during the life of the loan. Most loans (55.6 per cent) were paid with one payment. Nine-tenths of all loans were paid with less than six payments. The range in number of payments was wide. Thirteen, or 0.8 per cent of all loans, were paid with more than 19 payments. The greatest number of payments on any loan was 45.

Computations not shown here indicated that a relatively larger number of payments was more usual on the large and long loans than on the small and short loans. It was also noted that differences in the security of loans had no appreciable influence on the number of loan payments.

SECURITY GIVEN ON LOANS

The loan security to be discussed here will be that security which is given in addition to the signature of the principal borrower. Thus, there are two major classes of loan security which are concerned, namely, chattel mortgages and cosigners (joint makers). Of the 3,049 loans included in this study, 436, or 14.3 per cent, involved chattel mortgages. A greater proportion of the large than of the small loans involved chattel mortgages. The tendency for the increased use of chattel mortgages with larger loans was fairly consistent throughout the whole range of loan sizes.

Because they usually denote that other credit sources have been exhausted, chattel mortgages are sometimes considered as a sign of weakness in a credit risk. In this study, however, it was found that such a stigma was not universally attached to the use of these instruments. In some communities, especially where livestock loans were prevalent, bankers have established the custom of requiring chattel mortgages on many of their short-term farm loans. Over a period of years, farmers have come to accept this requirement as part of normal borrowing procedure. In other communities, bankers stated that farmer-borrowers often object to giving chattel mortgages.

Of the 3,049 loans studied, 1,424, or 46.7 per cent, were cosigned. Nine different methods of cosigning were discovered.[3] Of these, the "wife only" was most prevalent. The next most prevalent method was that of "one person other than wife." These two methods accounted for 91.7 per cent of the 1,424 loans which were cosigned.

Some tabulations which are not given here indicated a tendency for the chattel mortgage and cosigning requirements to be used in lieu of one another. Of the 2,612 loans without chattel mortgages, 1,308, or 50.1 per cent, were cosigned. In comparison with this, only 26.5 per cent of the 437 chattel mortgage loans were cosigned. Such a relationship should be expected, since both these requirements are forms of additional security.

COST OF LOANS TO THE FARMER

CONTRACT RATE OF INTEREST

By the "contract rate of interest" is meant exactly the same thing as the layman means when he speaks of the "interest rate." It is the customary meaning of the rate of interest. The contract rate of a loan may, or may not, be synonymous with its "cost," depending on the nature of the loan. It is, however, the figure which is basic in computing the cost of loans.

In this study, information was obtained on the contract rates of 2,980 short-term bank loans to farmers. These rates ranged from 4.0 per cent to 8.0 per cent inclusive. Slightly more than one-half (52.59 per cent) of all loans were made at the contract rate of 6.0 per cent (see table 5). On 72.2 per cent

[3]The different methods of cosigning that were found in use were: wife only; wife and one other; wife and two others; wife and three others, wife and four others; one person other than wife; two persons other than wife; three persons other than wife; four persons other than wife.

of the total 2,980 loans, the interest was taken at the maturity of the loan; on the remaining 27.8 per cent, the interest was discounted from the principal at the time the loan was made. In general, the proportion of "maturity loans" and "discount loans" was determined by the proportion of "maturity banks" and "discount banks" in the 31 banks from which information was obtained. Some banks made only "maturity loans"; others made only "discount loans." A few varied their procedure depending on the size and length of the individual loan.

TABLE 5.—Distribution of 2,980 loans according to the contract rate and the method of charging interest*

Contract rate of interest	Number of loans with interest taken at maturity	Number of loans with interest discounted from principal	Total	
			Number of loans	Per cent of loans
4.0 per cent	1	0	1	0.03
5.0 per cent	32	0	32	1.07
6.0 per cent	1,107	460	1,567	52.59
6.5 per cent	3	0	3	.10
7 0 per cent	802	225	1,027	34.46
8.0 per cent	206	144	350	11.75
All rates				
Number	2,151	829	2,980	100.00
Per cent of total	72.2	27.8	100.0	.....

*Information was not available on 69 of the total 3,049 loans.

METHOD OF COMPUTING THE TRUE PER-ANNUM COST OF LOANS

As indicated in the preceding paragraphs, the contract rate does not necessarily show the true interest cost of loans to the borrower. If an individual borrows $100 for 1 year at the contract rate of 6 per cent and repays $106 at the end of the year, the contract rate is exactly equal to the interest cost expressed on a yearly basis (6.000 per cent). However, this is only one of several conditions which may exist. Other circumstances may cause the cost to exceed the contract rate. Although there are many conditions which may bring this about, only four were found to play a part in the bank loans which were analyzed. In order to show the method of calculating the cost of loans which was used in this report, an example of each of these four conditions will be given.

The case of a discount loan.—Suppose that $100 is borrowed for 1 year at the contract rate of 6 per cent and that the interest charge of $6 is deducted from the principal so that the borrower has the use of only $94. Under these conditions, the true interest cost of the loan is not 6 per cent, but 6.383 per cent ($6/$94). It is possible, of course, to deduct an amount from the principal which would equal approximately the contract rate of 6 per cent ($5.66 in this instance). However, this procedure was not used by any of the "discount banks" included in this report. It should be noted further that the discounting practice used by these banks creates a condition in which the difference between the contract rate and the true interest cost varies with the length of the discount period. For example, the true interest cost of a loan discounted at 6 per cent for 30 days by the usual procedure is 6.030 per cent. On the other hand, the true interest cost of a 6 per cent loan discounted for 1 year is 6.383

per cent. At any given contract rate, the longer the discount period, the greater the true interest cost of the loan. Table 6 has been prepared to show this relationship in detail.

TABLE 6.—True interest cost of discount loans made for different periods and with different contract interest rates

Discount period	True interest cost*				
	Contract rate of 5 per cent	Contract rate of 6 per cent	Contract rate of 6.5 per cent	Contract rate of 7 per cent	Contract rate of 8 per cent
30 days	5.021	6.030	6.535	7.041	8.053
60 days	5.041	6.060	6.570	7.081	8.107
90 days	5.062	6.090	6.606	7.123	8.161
120 days	5.084	6.121	6.642	7.165	8.216
150 days	5.105	6.152	6.678	7.207	8.272
180 days	5.126	6.183	6.715	7.250	8.329
210 days	5.148	6.215	6.753	7.294	8.386
240 days	5.170	6.247	6.790	7.338	8.444
270 days	5.192	6.279	6.828	7.382	8.503
300 days	5.214	6.311	6.867	7.427	8.573
330 days	5.237	6.344	6.906	7.473	8.624
360 days	5.259	6.377	6.945	7.519	8.685
365 days (1 year)	5.263	6.383	6.952	7.527	8.696

*Computed by use of the formula:

$$r = \frac{365\ i}{36{,}500 - ni}$$

where: r = true interest cost, i = contract rate, n = number of days

The case of charges made for drawing, notarizing, and filing chattel mortgages.—Suppose that $100 is borrowed for 1 year at a 6 per cent contract rate payable at the maturity of the loan and that in addition, there is a charge of $0.50 for drawing, notarizing, and recording a chattel mortgage. Under these conditions, the total money charge would be $6.50, which is 6.500 per cent of the number of dollars used for 1 year, or the true cost of this loan.

The case of partial payments which are not subtracted from the principal on which interest is payable.—Most of the banks maintained the practice of allowing deductions to be made from the interest-paying principal only if the payment exceeded a certain minimum amount. This minimum ranged from $25 to $100. All the banks deducted payments made at the time of loan renewal. For example, the borrower may borrow $100 for 1 year and repay $25 at the end of 270 days and the remainder at the end of the year. He has the use of $100 for 0.73973 of a year (270 days) and $75 for 0.26027 of a year (95 days). In total, he has the use of ($100) (0.73973), or 73.97 year-dollars, plus ($75) (0.26027), or 19.52 year-dollars, which equals 93.49 year-dollars, or $93.49 for 1 year. If $6 is paid for the use of this money at the end of the year, the true interest cost on a per-annum basis is 6.418 per cent ($6/$93.49).

The case of a loan on which a minimum charge applies.—On bank loans, there is always a certain amount of bookkeeping and other expense that bears only a slight relationship to the size of the individual loan. Because of this, all the banks included in this study maintained a minimum charge in an effort to make small loans remunerative, or at least self-supporting. For most of these banks, the minimum charge was $0.50. If $25 is borrowed for 60 days (0.16438 year), it is equivalent to a loan of $4.11 for 1 year ($25) (0.16438). A 6 per cent interest charge for this amount and time equals approximately $0.25. If a minimum charge of $0.50 is assumed, it would apply here. Thus, the true cost of this loan is not 6.000 per cent, but 12.165 per cent (0.50/$4.11).

The four examples given show the main conditions under which the true cost of loans on a per-annum basis would exceed the contract rate. It is possible for any combination or all of these conditions to apply on one loan. In order to show the method used in calculating the cost of loans more fully, an example of a loan in which all these conditions do apply is given in the Appendix. By use of the calculation method which this example explains, it is possible to combine data for any number of loans and arrive at the true annum cost weighted according to the size and length of loans.

COST OF LOANS FROM TWO POINTS OF VIEW

Hereafter, unless otherwise explained, the term "cost" will refer only to the true cost of loans on a percentage per annum basis.

Since the method of computing the cost of loans has been explained, the remainder of this work will be devoted to an analysis of the cost of loans according to their size, length, security, and other factors. Although this study deals with 3,049 loans, there were 1,531 loans on which information was not sufficient for making cost calculations. Thus, the following cost data concern 1,518 loans. This division was mainly the result of selecting about one-half paid, and about one-half active loans. Obviously, those loans which had not been paid (active loans) were not adapted to cost calculations.

The cost of loans may be examined from two points of view: from the viewpoint of the individual loan and from the viewpoint of many loans combined. In the first case, the emphasis is on the cost of credit to the individual; in the second case, the emphasis is on the cost of credit to many farmers—the farmers of the community or area.

The cost of individual loans.—Table 7 shows the distribution of 1,518 loans according to their costs to the borrower. It gives an indication of the wide range of costs which an individual borrower might experience in obtaining

TABLE 7.—The distribution of 1,518 non-real estate bank loans according to their cost to the borrower

Cost on a percentage per annum basis	Number of loans	Cost on a percentage per annum basis	Number of loans	Cost on a percentage per annum basis	Number of loans
5.0	12	7.5	11	10.0- 10.9	35
5.1	8	7.6	9	11.0- 11.9	23
5.2	2	7.7	5	12.0- 12.9	26
5.3	1	7.8	7	13.0- 13.9	12
5.4	1	7.9	5	14.0- 14.9	15
5.5	0	8.0	68		
5.6	0	8.1	23	15.0- 19.9	54
5.7	0	8.2	31	20.0- 24.9	29
5.8	0	8.3	12	25.0- 29.9	14
5.9	1	8.4	14		
6.0	332	8.5	5	30.0- 39.9	22
6.1	102	8.6	10	40.0- 49.9	13
6.2	65	8.7	13		
6.3	25	8.8	9	50.0- 99.9	26
6.4	22	8.9	8		
6.5	14	9.0	3	100.0-199.9	6
6.6	11	9.1	7	200.0-299.9	2
6.7	12	9.2	7	300.0-399.9	2
6.8	6	9.3	6	400.0-499.9	1
6.9	8	9.4	3		
7.0	260	9.5	1	500.0-999.9	4
7.1	24	9.6	4		
7.2	20	9.7	5		
7.3	17	9.8	6		
7.4	13	9.9	6	Total	1,518

loans of different types and under different conditions. It will be noted that the costs range from 5.0 per cent to more than 500.0 per cent. The loans with a cost of 5.0 per cent were maturity loans made at a contract rate of 5.0 per cent with no other charges. The loan with the highest cost (909.091 per cent) was a loan of $40 which was outstanding for 1 day. This amount is equivalent to $0.11 for 1 year. A $1 minimum charge on this amount was responsible for the high cost ($1/$0.11).

Calculations made from table 7 showed that the median of the costs of the 1,518 loans was 6.953 per cent. The median is an average of position; in this case it means that one-half of the 1,518 loans had costs of less than 6.953 per cent and that the other one-half had costs of more than 6.953 per cent. Further calculations showed that one-fourth of all loans had costs of less than 6.007 per cent and that three-fourths of all loans had costs of less than 8.386 per cent.

The cost of combined loans.—This concept of loan cost is one which groups loans together and looks at their cost from the viewpoint of the entire group of borrowers. The cost which is arrived at here is the cost which one borrower would have experienced if he had contracted for all the 1,518 loans. This cost was found to be 6.702 per cent and was obtained by finding the number of year-dollars (dollars for 1 year) which were involved and determining what percentage the dollar cost was of this amount (see Appendix). In determining the cost of loans by this method, a $1,000 loan of 1 year in length has five times the weight of a $200 loan of 1 year in length. Similarly, a 6-month loan of $100 has twice the weight of a 3-month loan of the same size in determining the cost. Thus, the cost of 6.702 per cent is a figure which is arrived at by weighting all loans according to their size and length. It represents the cost of short-term bank credit to Ohio farmers as a group. Because the cost as calculated in this manner does take into consideration the amount of money and time involved, it is, therefore, the broadest aspect of cost and a cost with which agriculture is most concerned. For this reason, the remaining cost analysis will deal with the cost of combined loans rather than the selection of averages of individual loans.

COST OF LOANS WITH DIFFERENT CONTRACT INTEREST RATES

Five contract rates prevailed among the 1,518 loans included in this study. Table 8 shows that the cost of loans exceeded their contract rate in each of the contract rate classifications. This table also shows that the cost of the entire group of 1,518 loans was 6.702 per cent per annum. It will be noted that the cost of loans exceeded their contract rate by different amounts in the different contract rate groups. For example, the cost of the 452 7 per cent loans exceeded their contract rate by 0.223 per cent, while the cost of 231 8 per cent loans exceeded their contract rate by 0.708 per cent. There are two major explanations for this condition. First, the cost would be affected by the proportion of maturity and discount loans in each classification. Second, the prevailing size of the loans in each classification would also affect the cost. The effect of the size of loans on their cost will be considered in more detail in the following section.

TABLE 8.—Cost of loans by contract interest rate

	Number of loans	Year-dollars used	Cost in dollars	Cost as a percentage per annum
5 0 per cent maturity	22	10,106.37	512.41	5.070
5 0 per cent discount	4	3,153.98	165.30	5.241
All 5.0 per cent loans	26	13,260.35	677.71	5.111
6 0 per cent maturity	514	91,022.09	5,609.01	6.162
6 0 per cent discount	293	60,401.66	4,093.23	6.777
All 6.0 per cent loans	807	151,423.75	9,702.24	6.407
6.5 per cent maturity	2	414.84	29.97	7.224
6.5 per cent discount	0	.....	.....	.....
All 6.5 per cent loans	2	414.84	29.97	7.224
7.0 per cent maturity	383	50,431.95	3,622.83	7.184
7 0 per cent discount	69	5,701.10	431.89	7.576
All 7.0 per cent loans	452	56,133.05	4,054.72	7.223
8 0 per cent maturity	112	10,833.28	904.20	8.347
8 0 per cent discount	119	7,174.43	663.87	9.253
All 8.0 per cent loans	231	18,007.71	1,568.07	8.708
ALL LOANS	1,518	239,239.70	16,032.71	6.702

COST OF LOANS OF VARIOUS SIZES

The data presented in table 9 show a definite inverse relationship between the cost of loans and their size. The combined data at the bottom of the table show consistent decreases in the cost with increases in the size of loans, with the exception of the last class ($1,000 and more). In that class, the cost makes a slight turn upward. The relatively high cost of the small loans is undoubtedly partly explained by the amplified effect which fixed charges have on these loans. A fee of $0.50 for drawing, notarization, and filing chattel mortgages, for example, is 2 per cent of $25, but only 1/10 of 1 per cent of $500. It is also true that small loans have a higher cost because they involve the use of more minimum charges than do large loans. Further, if small loans are paid in several payments, each payment must necessarily be small and may be below the amount necessary to secure a reduction on the interest-paying principal. If this is the case, the borrower pays for the use of more dollars than he actually uses, and, hence, the cost is increased. Several of the cooperating banks charged higher contract rates on small loans than on large. For example, one bank charged a contract rate of 7 per cent on loans of less than $300 and 6 per cent on loans of $300 and more. Such a procedure obviously raises the cost of the small loans. One bank followed the practice of discounting small loans and taking the interest on large loans at maturity. This practice, also, raises the cost of small loans.

That loans of $1,000 and more had a slightly higher cost than loans of $800-$999 may possibly have been a result of the relatively small number of loans included in these groups; that is, some doubt may arise regarding the significance of the cost information because of the relatively small number of loans per class. On the other hand, there are several reasons for believing that the data shown in table 9 represent something near the situation that would exist if a larger sample were available. In the first place, as shown previously, the large loans involved chattel mortgages to a much greater extent than small loans, and for that reason, they may have been more costly.

TABLE 9.—Cost of loans according to their size

Size of loan	Number of loans	Year-dollars used	Cost in dollars	Cost as a percentage per annum
Less than $50	233	2,304.79	252.74	10.966
$50-$99.99	314	8,624.90	698.35	8.097
Less than $100.00	547	10,929.69	951.09	8.702
$ 100- 199.99	412	29,252.07	2,101.62	7.185
200- 299.99	200	29,868.69	2,139.68	7.164
300- 399.99	115	23,729.13	1,576.92	6.646
400- 499.99	68	24,633.06	1,665.02	6.759
500- 599.99	52	19,657.37	1,245.20	6.335
600- 699.99	22	11,170.49	755.08	6.760
700- 799.99	14	11,564.17	713.24	6.168
800- 899.99	16	9,428.51	590.21	6.260
900- 999.99	10	8,225.20	493.83	6.004
1,000-1,249.99	25	13,505.35	853.54	6.320
1,250-1,499.99	5	3,961.88	222.66	5.620
1,500-1,999.99	13	17,311.55	1,202.50	6.946
2,000-6,999.99*	19	26,002.54	1,522.12	5.854
All sizes	1,518	239,239.70	16,032.71	6.702
Combination of the above groups				
Less than $200.00	959	40,181.76	3,052.71	7.597
$ 200-$399.99	315	53,597.82	3,716.60	6.934
400- 599.99	120	44,290.43	2,910.22	6.571
600- 799.99	36	22,734.66	1,468.32	6.459
800- 999.99	26	17,653.71	1,084.04	6.141
1,000 and more*	62	60,781.32	3,800.82	6.253

*The largest loan in this class was $6,500.

Further, as was also shown previously, the large loans were loans of longer than the modal length. Therefore, to the extent that these large loans were discount loans, their extra length would mean a higher cost, since under these conditions, the cost is a function of the length of the discount period (see table 6).

COST OF LOANS OF VARIOUS LENGTHS

In general, the cost of loans fell with increases in the length of loans until the length reached 270 days. Thereafter, the longer loans were accompanied by higher cost. Table 10, which shows this relationship, was set up in such a manner as to remove at least a part of the effect of loan size from the comparison of cost and length. It has previously been shown that the length and the size of loans are positively correlated. A comparison of cost and length would mean very little if the effect of size were not removed, since it has also been shown that the size of loans is an important factor affecting cost.

Fixed money costs, such as chattel mortgage and minimum charges, undoubtedly account for part of the high cost of short loans. The longer a loan is held by the borrower, the less effect fixed charges have on cost. It should also be noted that minimum charges are likely to be numerous among short loans.

It is likely that the increased cost of long loans, particularly those of 270 days and more, is explained partially by the larger number of chattel mortgages which these loans involve. To the extent that these loans are discount

TABLE 10.—Relation of the cost of loans to the number of days in which they were paid, by size of loan

Size of loan	Number of loans	Loans of less than 90 days	Loans of 90 to 179 days	Loans of 180 to 269 days	Loans of 270 to 359 days	Loans of 360 days and more
Less than $200.00	959	10.262	7.527	7.586	7.507	7.116
$ 200- 399.99	315	6.806	6.693	6.671	7.106	7.023
400- 599.99	120	6.384	6.418	6.185	6.696	6.625
600- 799.99	36	6.249	6.322†	5.812†	6.758†	6.508
800- 999.99	26	6.002†	6.237†	6.034	6.840†	6.037†
1,000 and more*	62	6.171	5.953	5.646	5.535†	6.636
All sizes	1,518	7.618	6.630	6.285	6.840	6.729

*The largest loan in this class was $6,500.
†Cost based on less than 10 loans.

loans, their extra length would also add to the cost, especially if the entire period is made up of only one discount period. Further, the long loans were shown to involve a greater number of payments than short loans. The following section shows that there was some tendency for an increased number of payments to involve higher cost.

COST OF LOANS ACCORDING TO THE NUMBER OF PAYMENTS WHICH THEY INVOLVED

Of the total 1,518 loans on which cost information was available, 860 were paid with one payment, and the remainder were paid with two or more payments. It was found that the number of payments per loan had relatively little effect on the cost of the bulk of the loans (see table 11). The 860 one-payment loans had a cost of 6.600 per cent, whereas the cost of the 658 multiple-payment loans was 6.738. Among the multiple-payment loans, the differences in cost which resulted from differences in the number of payments were insignificant except for a few loans which involved an exceptionally large number of payments. These loans on which there were a large number of payments included most of the "monthly-payment" obligations. With these obligations, it was customary for the borrower to pay interest on the original amount of the loan until the last payment was made. In such cases, the borrower had the use of only a part of the original amount for the entire period of the loan. As a consequence, he paid a cost greater than the contract rate.

TABLE 11.—Cost of loans according to the number of payments in which they were paid

Number of payments	Number of loans	Year-dollars used	Cost in dollars	Cost as a percentage per annum
1	860	62,979.59	4,156.82	6.600
2 and 3	393	51,496.39	3,427.80	6.656
4 and 5	119	32,749.82	2,161.13	6.599
6 and 7	49	22,185.36	1,459.24	6.577
8 and 9	32	15,807.69	1,054.20	6.669
10-14	44	30,329.38	2,037.46	6.718
15 and more	21	23,691.47	1,736.06	7.328
Total	1,518	239,239.70	16,032.71	6.702

The concept of a loan payment which is used here may partially explain the lack of change in the cost of loans as a result of differences in the number of payments. It will be recalled that a loan payment has been defined arbitrarily as any transaction which credits the account of the borrower. Thus, a loan renewal is a loan payment. There is nothing about a loan renewal which directly adds to the cost of a loan, since any money payment made at that time is always deducted from the interest-paying principal. Hence, to the degree that the payments which were analyzed in table 11 were simply loan renewals, there would be no reason to expect a significant correlation between cost and number of payments. In order to examine this situation further, the multiple-payment loans were divided into two groups and their costs determined. The 333 loans in which every payment except the last was a loan renewal had a cost of 6.690 per cent. The 325 loans which involved at least one payment which was not a loan renewal had a cost of 6.765 per cent. It will be recalled that the cost of all multiple-payment loans was 6.738 per cent, of all single-payment loans, 6.600 per cent. It seems evident that the extra cost of multiple-payment loans was primarily an effect of those loans in which payments were made at dates other than the dates which involved renewals.

COST OF LOANS ON WHICH INTEREST WAS TAKEN AT MATURITY AND COST OF LOANS ON WHICH INTEREST WAS DISCOUNTED FROM THE PRINCIPAL

It has previously been shown that on discount loans, the borrower pays for the use of more money than he actually uses. Such a circumstance raises the cost of loans above the contract rate of interest. Of the 1,518 loans on which cost data were available, 485, or 31.9 per cent, were discount loans. The remaining 1,033, or 68.1 per cent, were maturity loans. The costs of these two groups of loans were: loans with interest taken at maturity, 6.559 per cent; loans with interest discounted, 7.005 per cent. A calculation of the cost of maturity and discount loans of various sizes was also made. Size of loan was shown to have only a slight effect upon the difference between the costs of these two groups of loans, and this effect did not have a consistent direction.

COST OF LOANS WHICH INVOLVED CHATTEL MORTGAGES AND COST OF LOANS WHICH DID NOT

Because of the increased use of the chattel mortgage in recent years, it seemed timely to examine the cost of bank loans which involved chattel security. Several different procedures were used by banks in making extra charges on chattel mortgage loans. Most banks made a flat charge to cover the expense of drawing, notarizing, and filing the mortgage. This charge varied from $0.25 to $1.50. Other banks charged the borrower the actual cost of notarizing and filing, and this charge varied from county to county. One bank followed the practice of absorbing all the extra charges connected with chattel mortgage loans. Two banks absorbed such costs on all loans of more than a certain size—$200 and $500, respectively. There were also a considerable number of chattel mortgage loans made as a result of banks' "buying" farmers' notes which had been endorsed by merchants. In most of these cases, it was customary for the merchant to absorb the extra costs connected with chattel mortgages. The farmer-borrowers may have paid the extra costs indirectly, but there was no way of determining this. None of the banks which cooperated in this study made application or inspection charges in connection with their chattel mortgage loans.

Of the 1,518 loans, 219, or 14.4 per cent, involved chattel mortgages. In comparing the cost of these 219 loans with the cost of the 1,299 non-chattel mortgage loans, only a very slight difference was found (see table 12). However, in comparing groups of loans of various sizes, the greater cost of the chattel mortgage loans was more evident. For example, table 12 shows that the cost of 88 chattel mortgage loans of less than $200 was 8.883 per cent, whereas the cost of 871 non-chattel mortgage loans of the same size was 7.427 per cent. This table also indicates that charges made in connection with chattel mortgage loans increased the per-annum cost on small loans to a greater extent than on large loans.

TABLE 12.—Cost of loans according to whether they did or did not involve chattel mortgages

Size of loan	Number of loans	Year-dollars used	Cost in dollars	Cost as a percentage per annum
Loans which involved chattel mortgages				
Less than $200.00	88	4,708.89	418.30	8.883
$ 200-$399.99	47	7,774.34	563.60	7.249
400- 599.99	36	11,350.79	766.26	6.751
600- 799.99	11	4,108.47	273.66	6.661
800- 999.99	13	7,493.21	454.98	6.072
1,000 and more*	24	22,583.94	1,412.74	6.256
All sizes	219	58,019.64	3,889.54	6.704
Loans which did not involve chattel mortgages				
Less than $200.00	871	35,472.87	2,634.41	7.427
$ 200-$399.99	268	45,823.48	3,153.00	6.881
400- 599.99	84	32,939.64	2,143.96	6.509
600- 799.99	25	18,626.19	1,194.66	6.414
800- 999.99	13	10,160.50	629.06	6.191
1,000 and more*	38	38,197.38	2,388.08	6.252
All sizes	1,299	181,220.06	12,143.17	6.701

*The largest loan in this class was $6,500.

COST OF LOANS WHICH INVOLVED MINIMUM CHARGES AND COST OF LOANS WHICH DID NOT

A minimum charge is a fixed charge made by banks in instances where the calculated interest charge on loans is less than this stipulated amount. It is the lowest interest charge which banks make. Hence, the characteristics of a minimum charge are such that the cost of a loan which involved such a charge must always exceed the contract rate of interest.

A little more than one-fourth (28.1 per cent) of the 1,518 loans on which cost data were available involved minimum charges. The cost of all minimum-charge loans was 8.246 per cent; the cost of all loans which did not involve such charges was 6.604 per cent (see table 13). Since the amount of the minimum charge varied from bank to bank, the cost of loans which involved minimum charges of various amounts was calculated. In general, the loans which involved the large minimum charges were the most costly to the borrower. Table 13 also shows that the increased cost which results from minimum charges was much more evident on single-payment loans than on multiple-payment loans of which at least one payment involved a minimum charge.

TABLE 13.—Cost of loans which involved minimum charges and cost of loans which did not

	Number of loans	Year-dollars used	Cost in dollars	Cost as a percentage per annum
Loans without minimum charges	1,091	224,968.31	14,855.90	6.604
Loans with minimum charges	427	14,271.39	1,176.81	8.246
Loans with $0.25 minimum charges	25	733.40	49.47	6.745
Loans with 0.50 minimum charges	202	4,742.08	395.05	8.331
Loans with 1.00 minimum charges	183	8,663.25	699.79	8.078
Loans with 1.50 minimum charges	17	132.66	32.50	24.499
Single-payment loans that involved minimum charges	252	1,202.21	195.85	16.291
Multiple-payment loans that involved minimum charges on at least one payment	175	13,069.18	980.96	7.506
All loans	1,518	239,239.70	16,032.71	6.702

SUMMARY

In the summer of 1939, a detailed description of 3,049 short-term bank loans to farmers was obtained from 31 Ohio country banks located in 30 widely scattered counties.

Although the size of loans varied widely, most of the loans were small. Of the total number of loans studied, 2,582, or 84.7 per cent, were less than $500. The most usual size of loan was $100. A strong tendency was noted for farmers to obtain loans of "even amounts," i. e., loans evenly divisible by 100 or some other multiple of 10.

Farmers borrowed funds for a great many purposes. Most of the funds obtained were used for productive purposes, although there was some expenditure on consumption goods. Loans used for different purposes were found to have other distinguishing characteristics.

The "due periods" of loans varied from 1 day to more than 2 years. Most loans were drawn up to become due in 90 days. A direct relationship was shown to exist between the length of "due periods" and the size of loans. About 50 per cent of all loans were paid at their first maturity date; about 20 per cent were paid before due; and about 30 per cent were paid after their first maturity date.

About two-thirds of all paid loans had been paid without being renewed. Most of the remaining one-third were paid with less than 6 renewals, although some loans were renewed as many as 20 times.

The range in number of payments on loans was wide. Most loans (55.6 per cent) were paid with one payment. Nine-tenths of all loans were paid with less than six payments. About 1 per cent of all loans were paid with more than 19 payments. The greatest number of payments on any one loan was 45.

Of the 3,049 loans studied, 437, or 14.3 per cent, involved chattel mortgages. Chattel mortgage loans were usually the larger loans and the loans which ran for a longer period of time.

Cosigning was required on 1,424, or 46.7 per cent, of all loans. Nine different conditions of cosigning were required. Of these, the "wife only" was the most prevalent.

Of the 3,049 loans on which information was obtained, only 1,518 had information complete enough to make possible the computation of the cost of these loans to the borrower. The median of the costs of the 1,518 loans was 6.953 per cent. One-fourth of all loans had costs of less than 6.007 per cent, and three-fourths of all loans had costs of less than 8.386 per cent.

The cost of all loans taken together (weighted by size and length) was 6.7 per cent per annum.

An inverse relationship was shown to exist between the cost of loans and their size. The cost ranged from 11.0 per cent on loans of less than $50 to 6.3 per cent on loans of $1,000 and more.

In general, the cost of loans fell with increases in the length of loans until the length reached 270 days. Thereafter, the longer loans were accompanied by higher cost. It was found that the number of payments per loan had relatively little effect on the cost of the bulk of the loans.

The 485 loans on which interest was discounted had a cost of 7.0 per cent, whereas the 1,033 loans on which interest was taken at maturity had a cost of 6.6 per cent.

In comparing the cost of 219 loans which involved chattel mortgages with the cost of 1,299 mortgage-free loans, only a very slight difference was found. However, in comparing groups of loans of various sizes, the greater cost of chattel mortgage loans was more evident. The cost of 88 chattel mortgage loans of less than $200 was 8.9 per cent, whereas the cost of 871 mortgage-free loans of the same size was 7.4 per cent.

A little more than one-fourth of the 1,518 loans on which cost data were available involved minimum charges. The cost of all minimum-charge loans was 8.2 per cent. The cost of all loans which did not involve minimum charges was 6.6 per cent.

APPENDIX

THE CALCULATION OF THE COST OF A LOAN WHICH INVOLVED SEVERAL COST-INFLUENCING CONDITIONS (COST EXPRESSED AS A PERCENTAGE PER ANNUM)

The conditions of this loan represent an actual case. The figures were changed slightly to simplify the explanation. The conditions were: 1. The bank discounted the loan at the rate of 6 per cent. 2. The bank maintained a minimum charge of $0.50. 3. The bank would not allow partial payments to be deducted from the interest-paying principal unless they amounted to $50 or more. 4. This loan involved a chattel mortgage on which the borrower paid $0.50 for drawing, notarizing, and recording. The dates and amount of the loan transactions as they appeared on the bank's liability ledger were the following:

Loan period	Date made	Date due	Date paid	Debit	Credit	Balance
1	12/1/38	3/1/39	3/1/39	$100.00	$100.00	$100.00
2	3/1/39	5/29/39	5/29/39	50.00	50.00	50.00
3	5/29/39	8/27/39	6/28/39 8/27/39	50.00	10.00 40.00	50.00 40.00
4	8/27/39	9/26/39	9/26/39	25.00	25.00	25.00 0

The original amount of the loan shown was $100. It was paid in five payments, three of which occurred simultaneously with renewals of the loan. The second payment was simply payment by renewing the loan; it involved no reduction of the loan principal.

To determine the cost of this loan to the borrower, it is first necessary to compute on a per-annum basis, the face value of the actual amount of working capital which he had. In other words, it is necessary to calculate the face value of the total number of year-dollars (dollars for 1 year) that he used. This was done by multiplying the amounts outstanding by the portion of a year over which they extended (see the following table).

Date		Year-dollar use calculation			
Made	Paid	Balance outstanding	Days in effect	Year equivalent	Year-dollars
12/1/38	3/1/39	$100	90	0.24658	24.66
3/1/39	5/29/39	50	90	.24658	12.33
5/29/39	6/28/39	50	30	.08219	4.11
	8/27/39	40	60	.16438	6.58
8/27/39	9/26/39	25	30	.08219	2.05
Total			300		49.73

It will be noted that the face value instead of the actual value of the working capital was used in the computation of the cost of this type of loan. This was done to make the same cost computation procedure generally applicable to

both maturity and discount loans. On discount loans, the face value does not equal the actual amount of money used by the borrower. Since the face value was used in computations of the cost of discount loans, some adjusting measure was required. This adjustment was made by applying the true cost on a percentage basis to the face value of the actual amounts used. This procedure will be explained in succeeding paragraphs.

The data in the preceding table show that the face value of the amount which the borrower used was the equivalent of $49.73 for 1 year. It is now necessary to find the amount which the borrower paid for the use of this money to compute the true cost of the loan. The first step toward finding the total cost is to compute the number of year-dollars on which interest is paid. This is done in the following table in a manner similar to that used in calculating the face value of the year-dollars actually used. This table shows that the borrower paid interest on the equivalent of $51.37 for 1 year. Since he had the use of a sum with a face value of only 49.73 year-dollars (see preceding table), the borrower paid interest on 1.64 year-dollars more than the face value of the amount he actually used, because the bank did not subtract the $10 payment which was made on 6/28/39 from the interest-paying principal. As a consequence, in the third loan period, the borrower paid interest on $50 for 90 days, when, actually, he had the use of a sum which had a face value of $50 for only 30 days and a sum which had a face value of $40 for the remaining 60 days.

Date		Year-dollars on which interest is paid			
Made	Paid	Balance on which interest is paid	Days in effect	Year equivalent	Year-dollars
12/ 1/38	3/ 1/39	$100	90	0.24658	24.66
3/ 1/39	5/29/39	50	90	.24658	12.33
5/29/39	8/27/39	50	90	.24658	12.33
8/27/39	9/26/39	25	30	.08219	2.05
Total			300		51.37

It should be noted that the borrower paid interest on this loan four different times—at the beginning of each loan period. Since the number of year-dollars on which he paid interest during each of these periods has been calculated, it is only necessary to multiply these figures by the interest rate to find the true interest cost of the loan in dollars. For example, ($24.66) (0.06) equals $1.48, the interest paid for the use of $100 for 90 days in the first loan period. (Under these conditions banks would usually charge $1.50; i. e., assuming 90 days to be 0.25000 of a year instead of 0.24658 as used here.) However, the actual money cost is of importance in this study only in the case of maturity loans, and then only as a means of obtaining the total cost on a percentage per annum basis. Because the loan under consideration is a discount loan, a nominal dollar cost must be computed. This dollar cost must be nominal, because the face value was used instead of the actual working capital in all computations which involved discount loans. Thus, to obtain this nominal dollar cost for the first loan period, $24.66 was multiplied by 0.06090, since

this is the true interest cost of discount loans made for 90 days (see table 6). By following this procedure for the other periods of the loan, the following nominal dollar costs were obtained:

Loan period No. 1	—	($24.66)	(0.06090)	=	$1.50
Loan period No. 2	—	($12.33)	(0.06090)	=	.75
Loan period No. 3	—	($12.33)	(0.06090)	=	.75
Loan period No. 4	—	($ 2.05)	(0.06030)	=	.12

However, the fourth period involves an interest charge of less than $0.50; so a minimum charge of that amount applies. With this charge added, the nominal dollar costs of the four loan periods were: $1.50; $0.75; $0.75; $0.50. These nominal dollar costs total $3.50. In order to get the total nominal costs, it is necessary to add the chattel mortgage charge of $0.50. Hence, the total nominal dollar costs amounted to $4. This nominal amount was paid for the use of a sum of year-dollars of which 49.73 year-dollars ($49.73 for 1 year) was the face value. This amount represents a per-annum cost of 8.043 per cent ($4/$49.73).

After computing these data for loans, namely, the equivalent number of dollars borrowed for 1 year (the face value of this amount in the case of discount loans) and the total cost in dollars (nominal dollar cost in the case of discount loans), it is possible to combine these data for any number of loans and arrive at the true per-annum cost weighted according to the size and length of loans.